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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,908	06/14/2006	Yong Jiang	NL03 1494 US1	4998
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EXAMINER				
RALIS, STEPHEN J				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,908

Applicant(s)

JIANG ET AL.

Examiner

STEPHEN J. RALIS

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Applicant is respectfully requested to provide a location within the disclosure to support any further amendments to the claims due to when filing an amendment an applicant should show support in the original disclosure for new or amended claims. See MPEP § 714.02 and § 2163.06 ("Applicant should specifically point out the support for any amendments made to the disclosure.").

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 August 2008 has been entered.

Response to Amendment/Arguments

4. Applicant's arguments, see pages 6-10, filed 12 August 2008, with respect to claims 1-8 have been fully considered and are persuasive. The 35 U.S.C. 103(a) rejections over Krishnan (U.S. Publication No. 2006/0005437) of claims 1-8 has been withdrawn.

5. Applicant's arguments filed 12 August 2008 have been fully considered but they are not persuasive as set forth below.
6. Furthermore, to the degree it can be argued that van der Meer (U.S. Patent No. 5,042,179) does not teach "a control means for opening and closing a valve", the additional rejection is provided as set forth below in view of Vogelman (U.S. Patent No. 5,536,375)

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

- (l) **SEQUENCE LISTING** (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) **Title of the Invention:** See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) **Cross-References to Related Applications:** See 37 CFR 1.78 and MPEP § 201.11.
- (c) **Statement Regarding Federally Sponsored Research and Development:** See MPEP § 310.
- (d) **The Names Of The Parties To A Joint Research Agreement:** See 37 CFR 1.71(g).
- (e) **Incorporation-By-Reference Of Material Submitted On a Compact Disc:** The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) **Background of the Invention:** See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
- (1) **Field of the Invention:** A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

The Specification is objected to because it does not meet the requirements of a Specification as mentioned above. Applicant is reminded that no new matter can be entered with the submittal of a new Specification. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the phrase "if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38" recited in lines 16-18 renders the claim indefinite for not being complete because the phrase is merely stating

a condition wherein it is unclear for what may happen if the ratio as recited is not in the range of if the ratio between the flow rate (g/min) of the pump and the power heating means is **not** in a range of 1:20 to 1:38.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179) and Maykemper (U.S. Patent No. 2,615,265).

Netten et al. disclose a steam ironing device (Title) comprising a steam iron (see Figure 1, 6, 7) having a housing, a heatable soleplate (2) at the bottom side of the housing and at least one steam outlet opening (steam vents 20), the ironing device comprising a water supply device (water tank 8), a steam generator (steam chamber 12) for generating steam, heating means (heating element 18) for heating the steam generator (steam chamber 12), a flow path between the steam generator (steam chamber 12) and the steam outlet openings (steam vents 20); an electric pump (water pump 10) for delivering water from the water supply device (water reservoir 4) to the steam generator (steam chamber 12), characterized in that the ironing device (Title) comprises control means (controller 16 and thermostat not shown): for controlling the power of the heating means (heating element 18) of the steam generator (steam chamber 12); for controlling the flow rate of the pump (water pump 10), and a ratio between the flow rate (g/min) of the pump and the power heating means being about 1:31.25 (48 g/min to 1500 W equals approximately 1:31.25) (pages 1-2, paragraph 14).

Netten et al. further disclose a steam generator can alternatively be detached from the system, connected via a hose and the steam being controlled is passed into

the steam duct (22) via a controllable steam valve under control of a signal having similar function as the pump signal PS (column 5, lines 2-6)

Netten et al. disclose all of the limitations of the claimed invention, as previously set forth, except for at least one atomization device being part of the steam outlet openings; and a valve provided in the flow path between the steam generator and the steam outlet; the control means for controlling the opening and closing of the valve, the valve being open if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 or in a range of 1:23 to 1:30 to control the wetness of steam delivered by the steam outlet device.

However, having an atomizing device in the steam outlet after the generation of steam is known in the art. Maykemper, for example, teaches the use of an atomization device (column 7, line 50 - column 8, line 48) to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process.

Similarly, the use of a valve provided in the flow path between the steam generator and the steam outlet as well as the valve having a control means for opening and closing the valve if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 is known in the art. Van der Meer, for example, teaches a steam iron comprising a steam generator (40) having a steam valve (46) being used to open and close the steam pipe between the steam generator (40) and the steam passages (not shown) in the soleplate (20) (column 5, lines 37-67; column 8, line). In addition, Van der Meer teaches a second heating element (41)

providing the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). Van der Meer further teaches the advantage of such a configuration provides for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle (column 3, lines 5-40), thereby improving the efficiency of the steam iron device.

With respect to limitation of "a control means for opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38", van der Meet explicitly teaches an iron comprising a control means (microprocessor 155). Van de Meer also teaches a control valve (46) being opened and closed based on usage of the device (column 8, line 17 - column 13, line 2). In addition, van der Meer teaches a second heating element (41) providing the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). Therefore

since van der Meer discloses a control means (microprocessor 155) controlling a control program (see Figures 3a-3d) that opens and closes a control valve (46) and the steam program delivering steam of 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22), van der Meer fully meets "a control means for opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38" given its broadest reasonable interpretation.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the steam outlet openings of Netten et al. with an atomization device as taught by Maykemper in order to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process. It would have further been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. with the steam valve in the steam pipe between the steam generator and the steam outlet passages in order to provide for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle, thereby improving the efficiency of the steam iron device.

13. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179) and Maykemper (U.S. Patent No. 2,615,265) as applied to claims 1 and 2 above, and further in view of Leta (U.S. Publication No. 2006/0213092).

Netten et al. in view of van der Meer and Maykemper discloses all of the limitations, as previously, except for the atomizing device comprising at least one nozzle provided in a front part of the housing; the atomizing device comprising at least one nozzle provided in a tip area of the soleplate; the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided; the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45.

However, a steam iron comprising a nozzle configuration in a front part of the housing, at least one nozzle provided in a tip area of the soleplate, the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided is known in the art. Leta, for example, teaches a steam ironing apparatus comprising a nozzle (218, 318) in a front part of a housing as well a narrowing perforations (206, 306) in the front tip of the soleplate equivalent, given its broadest reasonable interpretation, to nozzles (see Figure 3-9). In addition, Leta teaches a flow path (213/231; 313/331) having a second flow path (second conduits 211, 311) being connected to nozzle (218) with the second flow path (second conduits 211, 311) having a steam chamber (distribution chamber 232, 332) in

the flow path (211) between the flow path (213/231; 313/331) and the narrowing perforations (206, 306). Leta also teaches a valve (228) or a first valve second valve configuration (328, 329) controlling the flow between nozzle (218, 318) and narrowing perforations (206, 306) (page 3, paragraph 34 – page 4, paragraph 48). Leta further teaches the advantage of such a configuration provides that ability to provide a higher moisture content of the steam at the front portion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect (page 1, paragraph 5). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. in view of van der Meer and Maykemper with the nozzles in the front portion of the housing, the front portion tip of the soleplate as well as the valve and second steam chamber in a second conduit of Leta in order to provide a higher moisture content of the steam at the front portion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect.

With respect to the limitation of the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45, van der Meer discloses a number of preferred ratios of flow rate to power of the heating element ratios (column 11, line 47 – column 12, lines 22). In addition, Leta specifically teaches the diversion of the steam from the steam generating chamber to either the narrowing perforations (206) or the nozzle (218) depending on the setting of the valve (228) (page 3, paragraph 41). To provide the valve opening the second flow

path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45 would have been a mere engineering expediency as van der Meer clearly discloses varying the flow rate to power ratio and Leta further teaches varying the flow between two flow paths depending on the requirements.

14. To the degree it can be argued that van der Meer" does not disclose "a control means for opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38", the additional rejection is provided as set forth below:

15. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179), Vogelmann (U.S. Patent No. 5,536,375) and Maykemper (U.S. Patent No. 2,615,265).

Netten et al. disclose a steam ironing device (Title) comprising a steam iron (see Figure 1, 6, 7) having a housing, a heatable soleplate (2) at the bottom side of the housing and at least one steam outlet opening (steam vents 20), the ironing device comprising a water supply device (water tank 8), a steam generator (steam chamber 12) for generating steam, heating means (heating element 18) for heating the steam generator (steam chamber 12), a flow path between the steam generator (steam chamber 12) and the steam outlet openings (steam vents 20); an electric pump (water pump 10) for delivering water from the water supply device (water reservoir 4) to the

steam generator (steam chamber 12), characterized in that the ironing device (Title) comprises control means (controller 16 and thermostat not shown): for controlling the power of the heating means (heating element 18) of the steam generator (steam chamber 12); for controlling the flow rate of the pump (water pump 10), and a ratio between the flow rate (g/min) of the pump and the power heating means being about 1:31.25 (48 g/min to 1500 W equals approximately 1:31.25) (pages 1-2, paragraph 14).

Netten et al. further disclose a steam generator can alternatively be detached from the system, connected via a hose and the steam being controlled is passed into the steam duct (22) via a controllable steam valve under control of a signal having similar function as the pump signal PS (column 5, lines 2-6)

Netten et al. disclose all of the limitations of the claimed invention, as previously set forth, except for at least one atomization device being part of the steam outlet openings.

However, having an atomizing device in the steam outlet after the generation of steam is known in the art. Maykemper, for example, teaches the use of an atomization device (column 7, line 50 - column 8, line 48) to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process.

Netten et al. further discloses all of the limitations of the claimed invention, as previously set forth, except for a valve provided in the flow path between the steam generator and the steam outlet; the control means for controlling the opening and closing of the valve, the valve being open if the ratio between the flow rate (g/min) of the

pump and the power heating means is in a range of 1:20 to 1:38 or in a range of 1:23 to 1:30.

However, a valve provided in the flow path between the steam generator and the steam outlet as well as the valve having a control means for opening and closing the valve if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 is known in the art. Van der Meer, for example, teaches a steam iron comprising a steam generator (40) having a steam valve (46) being used to open and close the steam pipe between the steam generator (40) and the steam passages (not shown) in the soleplate (20) (column 5, lines 37-67; column 8, line). In addition, Van der Meer teaches a second heating element (41) providing the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). Van der Meer further teaches the advantage of such a configuration provides for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle (column 3, lines 5-40), thereby improving the efficiency of the steam iron device.

Similarly, Vogelmann teaches a steam generating apparatus comprising a flow restrictor (62) being started and stopped by an electrically operated valve (63) under control of a microprocessor based controller (30) (column 3, line 26 – column 4, line 5; column 11, lines 35-40; column 12, lines 17-57) to control the flow rate of fluid/water during operation. Vogelmann further teaches the advantage of such a configuration provides a means to avoid/prevent damage to the boiler and other parts, thereby increasing the operational longevity of the apparatus.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the steam outlet openings of Netten et al. with an atomization device as taught by Maykemper in order to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process. In addition, it would have further been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. with the steam valve in the steam pipe between the steam generator and the steam outlet passages in order to provide for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle, thereby improving the efficiency of the steam iron device. Furthermore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. with the computer controlled valve control of Vogelmann in order to provide a means to

avoid/prevent damage to the boiler and other parts, thereby increasing the operational longevity of the apparatus.

16. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179), Vogelman (U.S. Patent No. 5,536,375) and Maykemper (U.S. Patent No. 2,615,265) as applied to claims 1 and 2 above, and further in view of Leta (U.S. Publication No. 2006/0213092).

Netten et al. in view of van der Meer, Vogelman and Maykemper discloses all of the limitations, as previously, except for the atomizing device comprising at least one nozzle provided in a front part of the housing; the atomizing device comprising at least one nozzle provided in a tip area of the soleplate; the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided; the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45.

However, a steam iron comprising a nozzle configuration in a front part of the housing, at least one nozzle provided in a tip area of the soleplate, the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided is known in the art. Leta, for example, teaches a steam ironing apparatus comprising a nozzle (218, 318) in a front part of a housing as well as narrowing perforations (206, 306) in the front tip of the

soleplate equivalent, given its broadest reasonable interpretation, to nozzles (see Figure 3-9). In addition, Leta teaches a flow path (213/231; 313/331) having a second flow path (second conduits 211, 311) being connected to nozzle (218) with the second flow path (second conduits 211, 311) having a steam chamber (distribution chamber 232, 332) in the flow path (211) between the flow path (213/231; 313/331) and the narrowing perforations (206, 306). Leta also teaches a valve (228) or a first valve second valve configuration (328, 329) controlling the flow between nozzle (218, 318) and narrowing perforations (206, 306) (page 3, paragraph 34 – page 4, paragraph 48). Leta further teaches the advantage of such a configuration provides that ability to provide a higher moisture content of the steam at the front portion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect (page 1, paragraph 5). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. in view of van der Meer, Vogelmann and Maykemper with the nozzles in the front portion of the housing, the front portion tip of the soleplate as well as the valve and second steam chamber in a second conduit of Leta in order to provide a higher moisture content of the steam at the front portion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect.

With respect to the limitation of the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45, van der Meer discloses a number of preferred ratios of flow rate to power of the

heating element ratios (column 11, line 47 – column 12, lines 22). In addition, Leta specifically teaches the diversion of the steam from the steam generating chamber to either the narrowing perforations (206) or the nozzle (218) depending on the setting of the valve (228) (page 3, paragraph 41). To provide the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45 would have been a mere engineering expediency as van der Meer clearly discloses varying the flow rate to power ratio and Leta further teaches varying the flow between two flow paths depending on the requirements.

Remarks

17. With respect to applicants' reply/argument that applicant need not comply with the Office standard for specification, the examiner respectfully disagrees. It is applicants' responsibility to place an application in a condition for allowance. This condition would encompass the instant invention being conveyed to one of ordinary skill in the art in a way/standard that is known in the art. The Office currently has a standard, as asserted above, and the examiner further asserts that applicant has many pending applications at the Office that have complied with the Office standard. Therefore, the examiner maintains the objection to the specification and respectfully reasserts that appropriate correction is required.

18. With respect to applicants' reply/argument that van der Meer does not disclose "a control means for opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38", the

examiner respectfully disagrees. Van der Meet explicitly teaches an iron comprising a control means (microprocessor 155). Van de Meer also teaches a control valve (46) being opened and closed based on usage of the device (column 8, line 17 - column 13, line 2). In addition, van der Meer teaches a second heating element (41) providing the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). Therefore since van der Meer discloses a control means (microprocessor 155) controlling a control program (see Figures 3a-3d) that opens and closes a control valve (46) and the steam program delivering steam of 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22), van der Meer fully meets "a control means for opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38" given its broadest reasonable interpretation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN J. RALIS whose telephone number is (571)272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen J Ralis/
Primary Examiner, Art Unit 3742

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